1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

land as descendants of Mataeletuapiko, the third Tui Kanokupolu, the Haa Ngata Motua chiefs already having land there. The tracts formerly belonging to the Haa Havea have now passed to Ata who is the hereditary lord.

The tract Vaoleleva, which is situated near Huatolitoli in the Hahake district, Tongatabu, was given by the Tui Tonga to Lavaka-vaoleleva and Ahomee. It was named after Lavaka-vaoleleva in gratitude for his hospitality to the Tui Tonga on the occasion when the Tui Tonga's preparations for a voyage to Vavau were delayed by a great famine in Tongatabu. On this occasion the meals were prepared from two great (breadfruit?) storage pits, of which there were many in the tract.

Following the slaying of the Tui Haa Takalaua Mulikihaamea in 1799, a man named Tongalava is reputed to have removed the body to Mua from a rock on which his slayers had placed it. At Mua it lay in state in a funerary house (*tolia*) for six months, while the royal tomb Langi Loamanu was being erected. After the funeral the relatives of the deceased gave three parcels of Mulikihaamea's land to Tongalava, in gratitude for his service. The parcels are the tracts Toutai, Toutai II, and Tatai. These were to be forever the property of his descendants, the donors said.

Haapai

The following narrative concerning land ownership in Haapai is told by Tevita Tunai, of Faleloa, Foa Island, Haapai.

When they were preparing for the Tui Tonga's trip to Samoa the people gathered presents for this trip and then Helu brought the presents and the chiefs sailed. When they arrived in Samoa they distributed the presents and the Samoans were pleased with the presents that Helu gave them. When the expedition returnd to Tonga, the Tui Tonga told Helu to choose anything he liked as a reward for his efficient services. Helu told the Tui Tonga just to give him a little piece of land. The Tui Tonga said, "Come and carry me." Then they went up to a hill called Toloke in Haano Island, and they turned back from there and then the Tui Tonga asked, "How is this?" Helu replied, "Go on to the promotory (*muifonua*) at Fakakakai."

Then Helu said, "Give me the promontory Houmatala," and Helu was satisfied when this was done.

Helu died and was buried in Lotofoa in a cemetery called Monotapu. The first Tungi told Tooi and Niulala to remove Helu's bones to Houmatala to bear witness that that is Helu's land, and then they cut a stone and inscribed the name and the date and the year. This stone was set up as a witness that the promontory was Helu's. The Tui Haa Takalaua was the immediate overlord anciently. The brother of the present Helu (who is mayor of Lotofoa) was matapule to the first Tungi, who replaces the abolished Tui Haa Takalaua line.

Vavau

Maatu, lord of Niuatoputapu, claimed unsuccessfully the island of Mafana in the Vavau group upon the following basis:

8: Collocott & Havea M,I-5 (no date) 1922
OU9 Tonga OU9

539 252 264 **69. Paki ua uli taki taha vau:** Break in two—dirty. Each one scrape.

Refers directly to food such as the yam which has been baked in the embers. Ordinarily the yam, for instance, when taken from the fire would first be scraped clean and then divided among those who are to eat it. This indicates that there must be haste. The yam taken from the fire is to be divided while the charred outside skin is still on, and each one will clean his piece for himself. One of the commonest motives urging to such [574] haste would seem to be the apprehension that an unwelcome visitor will soon be coming to share in the meal. Generally of that which is to be done quickly.

539 252 **70. Poto hono fijifiji kae vale hono fokifokihi:** Skilled at its flipping but unskilled at its turning.

The Tongans flip cooking food with the nail of the fore-finger to test whether it is done or not. Food being cooked in the embers must be turned from time to time. The phrase indicates a man who does none of the work, is not willing to give the food a turn now and again, but is to the fore when it comes to finding out whether it is done or not. Obvious application to a lazy, greedy person.

539 262 [137] **71. Talia a umu kape:** Waiting for a meal of *kape (Arum costatum).*

At certain stages of its growth the *kape* is too pungent to be eaten. Hungry men, therefore, may wait for a meal of this root to be cooked only to find after all that they cannot eat it. So the expression is used of disappointed expectation.

539 252 262 251 **72. Teka a ma momoko:** Chucking cold *ma* about.

Ma, applied now to European bread, is the fermented fruit of certain plants, most commonly of the breadfruit, prepared by burying it in pits. This method of treatment, which is falling into almost complete disuse, was a very common and successful way of preserving a supply of food. Not only was the uncooked food thus kept for an indefinite length of time, but when cooked it remained good for a long period. One could throw it about anyhow and it still turned up good when wanted again. So of anything which, in spite of hard usage, is still good when wanted.

539 262 252 **73. Toki kovi a niu lelei:** Good nut is just bad.

Coconut is much used and highly esteemed in Tongan cookery. An article of food which cannot be rendered palatable by coconut must be very bad indeed. The upshot of cooking such a hopelessly unpalatable article with nut is that so much good coconut is merely wasted. Generally of that which is so extremely bad that contact with what is good cannot improve it, but the whole lot is wasted and spoiled.

[264] A story connected with this phrase is that the notorious cannibal Kaifakaau, who was alive at the time of the introduction of Christianity, once tried the experiment of cooking the genital organs of a woman with

9: Collocott M-5 (no date) 1922 OU9 Tonga OU9

1. **Liha-mua:** Early nit, December-January. This is the time when the first planted yams are forming roots. At this stage of growth little protuberances or roughnesses, like nits, appear on the heads of the roots. The name is also explained in a more general way. Many fish spawn at this time, and many trees show tiny fruits. A word for little things is nitlike, *ngalihaliha*, and the month is said to be so called because many things are "nitlike" at this period.

2. **Liha-mui:** Late nit. January-February. All the yams, late as well as early, show the little nitlike protuberances.

3. **Vai-mua:** Early rain (water). February-March. The first rainy month.

4. **Vai-mui:** Late rain. March-April. The second rainy month.

5. **Fakaafu-moui:** Putting forth living shoots. April-May. This is a time of vigorous growth with healthy suckers and shoots appearing on many plants. The word *afu* applies especially to the suckers of the *hiapo* (paper mulberry), but is also used more widely. The *fufi* (plantain) and *fau* (*Hibiscus tiliaceus*) should now be planted.

6. **Fakaafu-mate:** Dead, dying, suckers or shoots. May-June. Suckers are now not so vigorous, and dead tops of the yams appear.

7. **Hilinga-kelekele:** Laying earth, that is, either laying of earth or laying on earth. June-July. This is the month in which to start digging the yams. One explanation of the meaning of the name is that the harvested yams with earth adhering to them were laid on platforms constructed in suitable places, as under a tree or in a house, and that the name owes its origin to the fact that the adhering earth was laid down with the yams. Another explanation is that the yams were taken up and laid on the surface of the ground. The two interpretations are not inconsistent, for yams laid on a platform might still be said to be put on the ground. The name itself does not convey a precise meaning.

8. **Hilinga-meaa:** Laying *meaa*. July-August. This is the time to dig and store the remaining yams. These late yams are the biggest, and a portion of the garden is reserved for the special sorts of yam which grow to the largest size. The literal meaning of *meaa* in this place is doubtful. An explanation connects the word with *umea* (clay), and is to the effect that the big yams grow down into the clay which adheres to the roots when dug: but this interpretation is more than doubtful.

9. **Aoao:** August-September. The literal meaning of *Aoao* is obscure, a derivation for the name has been suggested which connects it with *hau-aoa*, used of rotting yam seed. The time for cutting yam for seed is now over, and it is said that if seed be cut in this month a considerable proportion of it will rot.

10. **Fuufuunekinanga:** Full leafiness. September-October. The yams, which have been planted about June and July, are now in full leaf.

11. **Ulu-enga:** Yellow head. October-November. This name is referred both to sea and land. Several sorts of fish are at a stage in their

21: Simkin U-5 (no date) 1945 OU9 Tonga OU9

From the standpoint of his own needs, therefore, the Tongan is an efficient enough farmer, but if European standards are considered his farming leaves much to be desired.

One of the first things to impress the outsider is the enormous waste of land, for, apart from a few clearings for the food plants, the farm is largely given over to prolific weeds. Equally glaring are the primitive methods of cultivation. Machetes, spades, push hoes, and an occasional fork are the only implements used, and no appreciation is shown of the use of animal manure or of any other fertiliser. Reflection will suggest, however, that these conditions may not be entirely due to agricultural backwardness. Intensive cultivation would exhaust the soil, and in the absence of local supplies fertilisers would cost more money than the Tongan could afford. Weeds may rob the soil of moisture, but they do not exhaust its fertility and have at least the merit of preventing soil erosion. Undoubtedly much more could be produced from the average farm, but probably only if fertilisers, cattle and implements were provided on a scale beyond the resources of most farmers.

To a certain extent the general faults of Tongan farming may be excused. It is less easy to justify the defects of its particular branches, apart from a recognition that they may arise not so much from a lack of ability or energy as from a lack of agricultural training and capital. Many of the crops and especially fruit are ravaged by serious diseases and pests, which the farmer does little to control beyond avoiding to plant obviously damaged material. The copra is of relatively poor quality, commanding inferior export prices because it is produced, harvested, and dried in a very haphazard way. The Tongan usually gathers it only when he needs money for some specific purpose, and this casual attitude, together with the infestation of weeds about the trees, leads to a considerable wastage of nuts. There are few hot-air driers in use, the greater part of the crop being rather carelessly sun-dried.

Perhaps the worst of the Tongan farming is animal husbandry. Not only is the stock inadequate and of poor quality, it is also badly cared for. Systematic efforts to provide feed are rare, the animals being left to forage for themselves. It is not surprising that they are scraggy creatures, too often suffering from serious diseases. Tuberculosis is particularly rife in both cows and pigs. There is little attempt either to control these diseases or to improve the stock by breeding.

39: Gerstle & Raitt C,Q-4,5 (1952-1972) 1974
009 Tonga 009

251
262
[825]
[178]

Octopus, which in days of old was considered to be a sacred animal, is today a very popular dish in Tonga. One method of preparing it for eating is to dry it, such as is being done with these three octopuses at Ofu, Vava'u.

Na'e pehe tokua he taimi ko e na'e nofo e ngaahi laumalie kehekehe 'i he feke, ka kuo hoko e ika ni ko ha me'a tokoni manakoa 'i Tonga he ngaahi 'aho ni. Ko e ta eni 'o ha fakamomoa feke 'i Ofu, Vava'u.

[P. 41-C]

16: Green & Green I-4,5 (no date) 1974
NT24 Mormons NT24

Mormons Take Care of Their Own

461 From its inception the Church has taught the value and dignity of work
251 and self-reliance. Each family is en-
731 couraged not only to take care of present-day needs, but also by hard work and frugality to put aside food, clothing, and other essential items so that in times of unemployment or sickness, disaster, hardship or famine, the family can continue to sustain itself as far as possible.

747 But the Church also has a keen sense of social responsibility, and has developed a Welfare Services program to help needy members care for themselves where possible, and to provide for them when it is not. This includes Health

[P.68-A]

76: Yuncker N-4,5 (1953) 1959 U9 Tonga OU9

Occasional throughout Tonga in thickets. India and China to Malaya, Formosa, Australia, and Polynesia. 137

Recorded as *D. nemorosa* Lam. in Burkill's list.

Tongan name: *akahele.*

? **Dianella intermedia** Endlicher, Prodr. Fl. Norf., 28, 1833.

Short-stemmed, herbaceous plant. Leaves linear, grasslike, distichous, up to 50 cm. or more long and 1 cm. wide, finely parallel-nerved, clasping stem at base. Flowers whitish, small, in large, terminal, paniculate clusters.

Tongatapu: *Nelson;* in open bush on sand near shore northwest of Hofoa, Oct. 30, 1951, *Hürlimann 86.*

'Eua: on limestone rocks in open vegetation, border of cliff near center of eastern ridge, Nov. 9, 1951, *Hürlimann 212.*

Occasional. New Zealand, Norfolk Island, Fiji, Society Islands.

Tongan name: *afuafu.*

The taxonomy of this genus is complex and the identifications are tentative.

Genus **Cordyline** Commerson

Cordyline terminalis (Linnaeus) Kunth, Berlin Akad., Abh., 30, 1820.

Small tree with slender stem up to 3 m. or more tall. Leaves closely spirally clustered near end of stem, elliptic-lanceolate or oblong-lanceolate, acuminate, base acute, up to 60 cm. or more long and 15 cm. wide, smooth, entire, finely pinnately nerved, petiole deeply canaliculate, clasping stem. Flowers pink or red, small, numerous, in large, terminal, paniculate clusters; fruit fleshy, globose, yellow or reddish.

Tongatapu: *Moseley;* in coastal forest near Fatai, Oct. 30, 1951, *Hürlimann 55;* in thicket near sea, near Vaini, Feb. 26, 1953, *Yuncker 15059;* in clearing between Fatai village and sea, Mar. 10, 1953, *Yuncker 15262.*

'Eua: *Lister;* in thicket along trail between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15483.*

Kao: near the upper margin of slope forest, May 6, 1953, *Yuncker 15954.*

Vava'u: *Crosby.*

Frequent throughout Tonga. Presumably of Malaysian origin; now widely distributed in Polynesia.

Tongan names: *si, si matale'a.*

The leaves are used to wrap fish and other foods, and the roots may be eaten in times of food scarcity. [251] [261] [824]

Genus **Asparagus** Linnaeus

Asparagus plumosus Baker, Linn. Soc. Bot., Jour. 14: 613, 1875.

Climbing, vinelike plant with sub-woody stems bearing small, recurved spines, branches forming a horizontal, flattened, fanlike frond. Cladophylls numerous, filiform, fascicled, mostly less than 1 cm. long. Flowers small, white, in few-flowered clusters; berry black.

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 'Eua: *Parks 16262* [cited by Croizat]; forested area near center of island, Mar. 18, 1953, *Yuncker 15322.*

Infrequent. Also in Fiji.

Genus **Macaranga** Thouars

Macaranga harveyana (Mueller-Argoviensis) Mueller-Argoviensis, in DC. Prodr. 15(2): 998, 1866.

Small, soft-wooded, dioecious tree, up to 8 m. or more tall, branchlets stout, pithy. Leaves alternate, peltate, round-ovate, acuminate, very shallowly toothed or entire, paler and golden glandular-dotted beneath, about eight-nerved from petiole, midrib branched upward, up to 20 cm. or more long and 18 cm. wide, commonly somewhat smaller, petioles up to 15 cm. or more long, stipules lanceolate, long-acuminate, up to 2 cm. long. Flowers small, in axillary, paniculate-racemose clusters; fruit depressed-globose, soft-spiny, about 1 cm. in diameter.

Tongatapu: *Moseley;* thicket along road near Vaini village, Feb. 26, 1953, *Yuncker 15053* (male), *15065* (female).

'Eua: *Lister;* margin of old plantation between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15482.*

Lifuka: thicket near northern end of island near Lifuka end of interisland causeway, May 11, 1953, *Yuncker 15980.*

Kao: lower margin of forest near old plantation, May 6, 1953, *Yuncker 15960.*

Vava'u: *Crosby;* in clearing on slope above the lagoon at Vaihoi, May 26, 1953, *Yuncker 16200.*

Tafahi: forest along path to Piu 'o Tafahi, alt. 150 m., Dec. 10, 1951, *Hürlimann 406.*

Frequent throughout Tonga. Fiji, Niue, and Samoa to the Society Islands.

Tongan name: *loupata.*

313 342 322 415 The timber is used for house construction, handicraft work, banana shooks, and other purposes; the leaves, for covering *umu* (ovens), for wrapping fish, and in medicines used for stomach disorders in infants.

251 278 854 824 **Macaranga seemannii** (Mueller-Argoviensis) Mueller-Argoviensis, in DC. Prodr. 15(2): 999, 1866.

Tree up to 18 m. tall, branchlets and petioles subglabrous. Leaves alternate, broadly ovate, long-acuminate, base rounded, peltate 2.5-7.5 cm. from margin, six- to eight-nerved from petiole, glandular beneath, nerves beneath puberulent, up to 30 cm. long and 22 cm. wide but commonly somewhat smaller, petiole up to 18 cm. long, stipules oblong-lanceolate, up to 4 cm. long and 1 cm. wide. Flowers small, in axillary, paniculate clusters up to 12 cm. long; fruit smooth, glandular.

Tongatapu: *Cook; U.S. Expl. Exped.*

Infrequent. Also in Fiji.

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

137 **Acalypha wilkesiana** Mueller-Argoviensis, in DC. Prodr. 15(2): 817, 1866.

Shrub, up to 2 m. or more tall, branches pubescent. Leaves mostly ovate, serrate, up to 20 cm. or more long and 15 cm. wide, acuminate, pubescent, mottled with various shades of red, yellow, and bronzy green. Flowers monoecious, small, on slender, axillary spikes up to 15 cm. or more long.

[245] [824] Introduced ornamental, frequently used as a hedge plant. Widely cultivated in warm countries. Although the type is from Fiji, the actual origin of the species is questionable.

Tongan name: *kalakala 'apusi.*

Genus **Ricinus** Tournefort

Ricinus communis Linnaeus, Sp. Pl., 1007, 1753.

Large, coarse, semi-woody, glabrous shrub or small tree with spreading, hollow branches. Leaves alternate, round-ovate in outline, peltate, mostly deeply palmately five- to nine-lobed, lobes sharply acuminate, serrate, up to 20 cm. or more long and as wide, palmately nerved, petiole about as long as blade. Flowers monoecious, small, in large terminal or axillary paniculate clusters; capsules three-seeded, spiny, seeds about 1 cm. long, smooth, variegated.

Tongatapu: *Moseley;* edge of old plantation near Niutoua village, Mar. 2, 1953, *Yuncker 15110.*

'Eua: in waste area near village of Ohonua, Apr. 2, 1953, *Yuncker 15618.*

Vava'u: *Crosby.*

Occasional in waste areas throughout Tonga. A native of the Old World, now pantropic in distribution.

Tongan name: *lepo.*

[251] The leaves are used for wrapping shellfish.

Genus **Aleurites** Forster

Aleurites moluccana (Linnaeus) Willdenow, Sp. Pl. 4: 590, 1805.

Tree up to 10 m. or more tall, branches, leaves and inflorescence brown-stellate-scurfy. Leaves light green, alternate, ovate or ovate-lanceolate, acute, base truncate or cordulate, entire, or palmately three- or five-lobed, lobes triangular, acute, three- to five-nerved from base, midrib branched upward, up to 20 cm. or more long and 15 cm. wide but mostly somewhat smaller, petiole as long as or longer than blade. Flowers small, greenish yellow or white, in large, many-flowered, terminal, paniculate clusters; fruit about 5 cm. in diameter when mature, subglobose.

Tongatapu: *Moseley; Forster;* margin of coastal forest, near Vaini village, Feb. 26, 1953, *Yuncker 15058.*

'Eua: *Lister;* along trail between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15460;* toward eastern ridge, near Fuai, alt. 60 m., Nov. 8, 1951, *Hürlimann 157.*

Lifuka: about midisland along road between Pangai village and east coast, Apr. 27, 1953, *Yuncker 15754.*

76: Yuncker N-4,5 (1953) 1959 OU9 Tonga OU9

Vava'u: *Crosby;* in forest on slope above Anovai Lake, May 18, 1953, *Yuncker 16050;* near upper edge of seaside cliff along northwestern side of island, May 25, 1953, *Yuncker 16181.* 137

In forests and thicket, usually on seaside cliffs. Also in Samoa.

Tongan name: *kulukulu.*

The large leaves are used for wrapping fish. 1/ [824] [251]

Genus **Polyscias** Forster

Polyscias multijuga (A. Gray) Harms, in Engler and Prantl, Nat. Pflanzenfam. 3(8): 45, 1894.

Small tree with thick, pithy stems and branches, up to 5 m. tall. Leaves pinnate, leaflets 9-13, oval-oblong, acuminate, base more or less inequilaterally obtuse, entire, up to 15 cm. or more long and 6 cm. wide, pinnately nerved, petioles vaginate and winged toward base, clasping. Flowers very small, numerous, in large, branching, axillary clusters, up to 60 cm. or more long.

Tongatapu: in dense thicket near shore, Blow Hole area, near Houma village, June 1, 1953, *Yuncker 16227.*

'Eua: *Lister.*

Locally abundant. Also on Niue Island.

Panax multijugum Benth. and Hook. f. in Hemsley's list.

Tongan name: *tanetane.*

Genus **Nothopanax** Miquel

Nothopanax fruticosum (Linnaeus) Miquel, Fl. Ind. Bat. 1(1): 765, 1856.

Glabrous shrub, up to 3 m. or more tall. Leaves decompound, up to 30 cm. or more long, leaflets quite variable in form, often more or less lanceolate, often laciniated and spiny-toothed, up to 10 cm. long, terminal leaflet usually largest, often with white margins. Flowers small, greenish white, in small umbels, forming large, terminal, paniculate clusters; fruit flattened, ribbed.

Tongatapu: *Home.*

A tropical Asiatic plant of frequent cultivation in Polynesia as an ornamental. The various forms have been given varietal names.

Reported by Hemsley in his list as *Panax fruticosum* L.

Nothopanax guilfoylei (Cogniaux and Marché) Merrill, Philippine Jour. Sci. 7C: 242, 1912.

Shrub or small tree up to 3 m. or more tall, with abruptly ascending branches. Leaves alternate, odd-pinnate, green with white margins, leaflets coarsely sharp-toothed, mostly five or seven, terminal leaflet largest, petiole clasping stem. Flowers and fruit rare, in terminal, racemose clusters.

An introduced ornamental, commonly planted in hedges or about dwellings. Pantropic. This species occurs in a number of varieties showing differences in the character of the leaflets, two or three of which were noted in Tonga. [824] [245] [351]

1/ / Mertya macrophylla -- Analyst/

/141 cont./

342 For a long time the "district officer" /cited in English/
177 living on Nomuka has wanted to move out of the house of his parents-
178 in-law and build his own house on a property he owns in the village.
463 He talks over his plan with Vilingia, the (approximately 45-year-old)
331 house-building specialist on Nomuka, who has been trained in Fiji as a carpenter. They decide to build a house with ancient Tongan ground plan but with "improved beaming," wooden walls with a cement base, windows and doors and a corrugated sheet metal roof. Vilingia draws a construction plan in an exercise book. The district officer
[439] buys four metal drums of cement, Canadian building timber, corrugated sheet metal and nails, flour, fat and sugar in Nuku'alofa and has the supplies brought to Nomuka in cutters. Six men from Nomuka sail to
[484] the uninhabited island of Tonumea, a half-day's journey distant, there
[313] chop down 12 breadfruit trees, cut them up as beams and take them
[283] home. Coconut-fiber cord is also made in sufficient quantities. After all the material has lain ready for several weeks, the district officer decides to start the building. Shortly before the date fixed,
[251] a group of natives sail to the neighboring island of Nomuka Iki, there shoot one of the half-wild cows of the "boss," cut it up properly and, in Nomuka, salt down the meat in wooden tubs, under the supervision of an aged Tongan.

342 On the day the building is to commence, some 20 men from the
476 village (young and old in approximately the same number) assemble early
313 in the morning at the previous dwelling of the "boss," and, after a
331 breakfast of fried cakes /cited in English/ (Tonga: keke) and orange-leaf tea, they repair to the plantations, led by the carpenter Vilingia, where, because of the exalted position of the "boss," they take the liberty of selecting and cutting down the coconut palms needed for the rafters, without asking permission from their respective

/150 cont./

244 dig with their hands until they feel the beginning of the tuber, then they continue digging with the huo spade and scoop the earth out with their hands. After they have felt the end of the yam root they fix it with the huo spade held against the opposite side of the dug hole and pull it out with their hands. They remove the earth from the tubers, fill up the holes and take the harvest home to their village.

[251] There they store the yams, which can weigh up to 50 pounds, but average from three to ten pounds, in the cook hut, under raised dwellings or in special storage huts. Yams can be stored for a long time, but usually the harvest is consumed in two to three months.

Kape = a plant related to taro (Alocasia macrorhiza Schott)
Kape was planted even in ancient Tonga. (421)

421. See J. Cook, Beschreibung...loc. cit. VI. p. 237.

[262] Its importance for the native has probably remained the same, if it has not increased (especially among the Ha'apai group); on the island of Nomuka, for example, it, together with manioc, is the chief food. The thick, rhizome-like lower stalk is eaten, not the tubers. The Tongans distinguish four main varieties of kape. The plant, which grows considerably larger than taro, is planted in special "kape gardens" or (more often) individually (for example, in yam or sweet-potato fields).

[221] Planting time is from March to September, but especially during the last three months of this period. The natives plant kape on land cleared of weeds (in mixed planting together with yams or sweet

244 potatos). With a huo spade they dig holes approximately 15 centimeters
412 deep and in these they plant seedlings which they fetch from a harvested kape field (where the tubers are left lying in the ground), or they place a tuber in the hole. They also plant the seedlings in earth

244 broken up by a simple digging stick (huo langa) (see above). In a yam-

/159 cont./

244 kape "garden" they plant the yams some 3.50 meters apart and set the kape between each of these. Weeding is done every week or two, especially during the first period of growth. The plant, which grows [412] from one year to the next, the natives harvest after one and a half to three years by cutting off the leaves with the machete (or the huo spade), removing the earth around the rhizome-like stalk with the huo spade and then lifting the stalk /160/ out of the ground with their hands. The roots and tubers are left in the ground. The stalks reach [251] an average length of approximately one and one-fourth meters and can be kept for two or three months.

kumala = Sweet Potato (Ipomoea batatas Poit.)

The sweet potato (with its yellowish tubers) has been cultivated for a very long time in Tonga. (422)

422. W. Ellis, for example, as early as 1777, regarded them as one of the Tongan crops (W. Ellis, An authentic narrative...I. p. 89.)

[137] It is not clear, however, when and how the sweet potato, which was very probably indigenous to South America, came to Tonga, or to the South Seas in the first place. This cultivated plant still enjoys great popularity, but it is not planted to the same extent on all the islands (allegedly on account of different soil conditions) The Tongans distinguish between some ten varieties (on the basis of color and degree of firmness of the tubers).

[221] Planting time is from March to September, but particularly in May and June. The natives plant the sweet potato by digging up small hills with the huo spade or the huo lafa-lafa on the land that has been cleared for planting. Into the hillocks they dig a hole with their hands and set in four or five stalk cuttings (tendrils with leaves). The sweet potato is usually planted in an open field, but sometimes, for lack of space, it is planted between coconut palms

/160 cont./

244 (as are yams and manioc at times). The distance from one plant to
[804] another is about one and one-half meters (by eye measurement; arrangement in rows). During the first period of growth weeds are combated. After three or four weeks the hill around the plant is heaped up more. Finally the leaves have grown to such an extent that the sweet potatoes take over the land and maintenance is no longer necessary. The harvest takes place in six or seven months. The natives either simply pull the plants out of the ground with their hands, dig out the sweet potatoes with their hands and continue digging (with a pointed stick, the huo spade or the huo lafa-lafa) until all the tubers have been found, or else they first cut off the stalk (for example, with a huo lafa-lafa), dig out the sweet potatoes with the same tool or with their hands. The hole is refilled with earth. In Tonga, the sweet potatoes weigh an average of about three pounds
[251] (the largest, about eight pounds). They may be stored up to four months.

manioke = Manioc (Manihot dulcis Baillon [?])

244 Manioc is scarcely more than 100 years old in Tonga, and un-
137 doubtedly owes its introduction in the Archipelago to Europeans; its importance for the food of the natives is today considerable and exceeds that of other cultivated plants. The natives distinguish some eight varieties in the Archipelago, chiefly by the color of the
244 leaves and tubers. Manioc produces a relatively high yield even on soil that is less good.

[221] Planting occurs during all months of the year, nor is the harvest restricted to a specific time of the year. The natives plant manioc on a cleared plot of land by digging up small hills with the huo spade (or the huo lafa-lafa), or often with a European fork, and setting two or three stalk-seedlings (cut off from old manioc stalks with the

/160 cont./

244 machete (also with the huo spade or the huo lafa-lafa) about a foot above the ground and with this stub they pull the tubers (which are barely 50 centimeters long) out of the ground and dig farther for those they have not pulled out. The tubers must be used up soon, since [251] they keep for only two or three days.

The manioc planted in Tonga for food is not noticeably poisonous. The natives take no precautions. Only the manioc often used nowadays to [824] [287] glue bark cloth is poisonous and is carefully stored away from domestic animals.

talo = Taro (Colocasia esculenta Schott)

[262] Taro is one of the ancient cultivated plants of the Tongans (423).

423. See J. Cook, Beschreibung...loc. cit. VI. p. 237; W. Ellis, An authentic narrative... I. p. 89.

but in the past, as today, it has never had great importance in the diet of the natives; the Tonga Islands are too arid for a extensive taro cultivation. Nevertheless, the natives take the trouble to plant a certain amount of taro. They distinguish between three main varieties.

[221] Planting time is from June to September (seldom to December), but particularly during the months of August and September. The native cut down and burn the weeds on the land where they propose to grow taro.

[462] Here too the subsequent "sweeping" of the residue is often done by the women, whereas all the rest of the work is the business of men. Sometimes they also plant taro after the yam harvest in the holes of the harvested tubers or together with the yams. They dig the planting holes for taro approximately 30 centimeters deep with the huo spade and place in them pieces approximately 12, 15 centimeters long) of the rhizome-like taro stalk. The planting holes are then covered with earth in such a way that a depression of some ten centimeters remains, so that in case of rainfall the water can gather in it. A simpler, more

/194 cont./

252 178 were then ultimately eaten or baked in this state, has almost completely fallen into oblivion. This may be attributed to the fact [177] [439] that today imported foods are available on all the islands of the Archipelago and that therefore stockpiling (for periods of shortage as a result of drought or storms) seems unnecessary. The fish that are caught are sometimes eaten /195/ raw, as in former times, (501)

501. See J. Martin, loc. cit. I. p. 197.

sometimes roasted in embers (ashes) or they are stewed, wrapped in banana leaves, in the earth-oven. (502)

[251] 502. Occasionally, they also preserve fish(for example, the 'ava on Nomuka), by cutting them open, cleaning them, salting them, hanging them up in the sun (with small sticks wedged into the fish to keep the two halves apart) or laying them out on platforms and then smoking them; octopus also often dried among the Ha'apai group.

Fish broth (with coconut milk) is still quite popular, as it was in ancient Tonga. (503)

503. See J. Cook, Beschreibung...loc. cit. VI. p. 161; J. Martin, loc. cit. II. p. 285.

231 The natives generally slaughter pigs and chickens as in olden times by stunning them; (504)

504. See J. Cook, Beschreibung...VI. p. 228; J. Martin, loc. cit. II. p. 282/283.

[177] larger pigs are shot. Nowadays they occasionally also slaughter animals according to the Jewish rites.

252 177 Among European foods, canned corned beef has gained special significance. They eat the meat either without any further preparation, or they heat the cans, but they also stew the corned beef in the earth-oven together with tubers by wrapping it in banana leaves and adding

102: Brierly T-3 (1850) 1852
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place to see something of the usual occupations of the natives at their homes. One of the things, that strikes a visitor most upon his arrival at Tongatabu, is the incessant hammering which commences at daybreak, and continues without intermission until about noon. To satisfy ourselves as to the cause of this, we entered the first house in which we heard the noise, and found two women engaged in making tappa, or native cloth. They were seated on the ground, one on each side of a log about 6 feet long and 6 inches square, which was raised just clear of the floor by means of short bits of stick placed under the ends of it. Each woman had a piece of the bark, of which the tappa is made, laid before her on the log, and was beating it with a wooden mallet about a foot in length, the handle being rounded, and the striking end square, with grooves in the sides. They wetted the bark from time to time, sprinkling water upon it from a large wooden bowl that stood upon the ground beside them.

In another hut a woman was shaving the head of a young child with a bit of glass broken from the neck of a bottle, dipping her finger into a cocoanut-shell of water and wetting the place as she went on; the little brown head became perfectly smooth and shining under the operation, which was so skilfully performed as not to disturb the child as it lay fast asleep on her arm. They call this operation fa-fai-ulu; literally, shave the head: shaving the chin being called te-lee kava, razor the beard.

In the next hut two men were busily employed in rigging the model of a canoe, to sell or barter on board the ship; they were very intent upon their work, leading all the ropes correctly, and finishing every part with great care.

In one house we found a native artist, a woman who made designs for patterns on tappa. She was at work, and had several lying by her which she had just finished. In a corner of the hut lay a pile of enormous yams, some of them being upwards of 4 feet in length. This store, together with other provisions, had been collected by the husband against the confinement of his wife, which appeared likely to take place very soon. The man sat watching her, and nursing a fine boy, and seemed quite proud of the attention with which we regarded his wife's performance.

In the course of our exploring excursion we called upon the principal man of the place, who had presided at the school examination in the morning. He was sitting alone in one corner of the matted floor of his house, and welcomed us as we entered, desiring us to be seated beside him. The house was in no way superior to the generality in the place, except in being a little larger and having the court-yard round it more carefully kept; the only piece of furniture in it was a large kava bowl, which hung up in the apartment. In a corner of the court-yard lay,

105: Vaea & Straatmans G,1-3 (no date) 1954
OU9 Tonga OU9

10.—Processing of Fish.

251 Processing of fish is not a general practice in Tonga. It is only carried out when necessary to preserve such an excess of fish which cannot be consumed by the inhabitants of an island, or to be exported to another island. Sometimes when the fishermen catches fish far in excess of the island's rate of consumption, for instance *'otule, 'atu, o, 'ava* and other species, inhabitants feel compelled to adopt this method.

Tonga processing of fish is a combination of salting, sun-drying and smoking. To preserve the fish, the head is cut off first and then the fish is split in two. One half being a pure lump of meat, the other half has the bones and tail. Having removed the insides, they are immediately salted and are then ready for sun-drying. The actual drying takes place at a clear spot where sunshine is abundant with plenty of fresh air. The beach is the most favourable spot for this work. A wooden platform is built fairly high to be out of reach of stray dogs and the fish is laid out on top. They are kept there all day and by the evening are taken off the platform and stored away in a safe place until next morning when they are placed on the platform again and so forth, until after five days of good sunshine the fish is in a good condition to be taken off the platform. Strung together they are hung near the roof of a little hut for the final process of smoking. A fire is made for this purpose and kept going for at least forty-eight hours. After that stage the fish is ready for consumption and inter-island export.

Sun-drying of octopuses is prevalent amongst the islands of Ha'apai. It is effectively done by using sticks to stretch the body of the octopus which is then hung on trees [448] or lines for drying in the sun. Octopuses caught by the *makafeke* method are sun-dried and sent to Tongatapu and Vava'u in exchange for yams. These " fish " being so small, are strung together in bunches of hundreds and hung out in the sun for drying; they are not salted nor smoked.

11.—Fisheries Regulations.

226 The law of Tonga strictly prohibits the use of dynamite or other explosives in fisheries.

225 Turtle fishing is prohibited between the 1st November